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10/086,963	02/28/2002	James B. Crews	304-27440-US	6754

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EXAMINER

METZMAIER, DANIEL S

ART UNIT

PAPER NUMBER

1712

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/086,963

Applicant(s)

CREWS, JAMES B.

Examiner

Daniel S. Metzmaier

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on May 8, 2003 & June 2, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-10, 12-15, 17-20, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-9, 12-15, 17-20, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 3 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

The request for continued examination filed June 2, 2003 has been entered as Paper No. 10. Said request for continued examination request consideration of the after final amendment filed May 8, 2003, Paper No. 8. Claims 1-3, 5-10, 12-15, 17-20, and 22-23 are pending. Claims 1, 9, 14, 15, and 20 have been amended; and claims 4, 11, 16 and 21 have been canceled by the said amendment.

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 2, 2003 has been entered.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for methods of adding aminocarboxylic acids and there salts to a guar or derivatized guar in an effective amount to directly break down the gel, does not reasonably provide enablement for the aminocarboxylic acid to act

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directly on the polymer and not any cross-linking ion, if present. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

Claim 2 is not enabled since the EDTA would be expected to be present in an equilibrium system rather than as claim 2 sets forth. This is supported in Chang et al, US 5,981,447, at column 12, lines 27-64. The aminocarboxylic acid would not act only on the guar or derivatized guar and not any cross-linking ion when present, since the aminocarboxylic acid would be expected to be in equilibrium with all available cation ion species in the system to some extent. It is known in the art that polyvalent ions cross-link many gel forming materials made up of hydratable polymers. Applicant has not adequately enabled a system where the limitations of claim 2 exist when a cross-linking ion is present.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 is indefinite since the EDTA would be expected to be present in an equilibrium system rather than as claim 2 sets forth. This is supported in Chang et al, US 5,981,447, at column 12, lines 27-64. It is unclear how the aminocarboxylic acid acts only on the guar or derivatized guar and not any cross-linking ion since the aminocarboxylic acid would be expected to be in equilibrium with all

available ion species in the system to some extent. It is known in the art that polyvalent ions cross-link gel forming materials made up of hydratable polymers.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 5-7, 9, 12, 14-15, 17-18, 20-22 rejected under 35 U.S.C. 102(b) as being anticipated by Dawson et al, US 5,624,886<sup>1</sup>. Dawson et al (examples) discloses the formation of gels employing hydroxypropyl guar and employs a breaker composition employing EDTA salts among other ingredients and cross-links the composition with zirconium lactate. Zirconium lactate is not a borate cross-linker. The claims do not exclude the further ingredients in the gel breaker.

8. Claims 1, 5-9, 12-15, 17-20 and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al, US 5,224,546<sup>2</sup>. Smith et al (example 2) discloses guar gels cross-linked with titanium complex and employing as a gel breaker EDTA in concentrations of about 1, 2, 3 or 4 pptg. Table 2 denotes the use of a 20% EDTA active set forth as gal. The estimated weight of a gal is about 12.15 lb. At 20% active, this equates to about 2.43. The use of 0.4 gal of 20% EDTA active/1000 gal fluid is about 1lb EDTA/1000gal fluid. The use of 0.8 gal of 20% EDTA active/1000 gal fluid is

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<sup>1</sup> Reference cited in applicant's IDS, dated Feb 28, 2002, Paper No. 3.

<sup>2</sup> Reference cited in applicant's IDS, dated Feb 28, 2002, Paper No. 3.

about 2lb EDTA/1000gal fluid. Gels cross-linked with titanium complex are absent a borate cross-linker.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-2, 5-9, 12-15, 17-20 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al, US 5,981,447<sup>3</sup>. Chang et al (example 1 and column 18, lines 60 et seq) discloses the addition of 0 to 100lbm/1000 gal (pptg) in a HEC (hydroxyethylcellulose) gel forming and breaking system.

Chang et al differs from the claims in the use of HEC rather than guar gum.

Chang et al (column 14, lines 13 et seq) discloses a number of guar and derivatized guar as suitable hydratable polymers useful in the disclosed systems.

It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ guar and/or derivatized guar as a hydratable polymer for forming the gels of Chang et al as an obvious functional equivalent of the HEC polymers exemplified for the art known gel forming function taught in the Chang et al reference.

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<sup>3</sup> Reference cited in applicant's IDS, dated Feb 28, 2002, Paper No. 3.

***Allowable Subject Matter***

11. Claims 3 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not disclose or fairly suggest methods for breaking a aqueous guar or derivatized guar gel by adding an effective amount of aminocarboxylic acid or salt thereof to directly break down the gel.

***Response to Arguments***

13. Applicant's arguments with respect to claims 1-3, 5-10, 12-15, 17-20, and 22-23 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (703) 308-0451. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on (703) 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



**Daniel S. Metzmaier  
Primary Examiner  
Art Unit 1712**